UTTS, V.N., kand.tekhn.nauk; BURYAKOV, V.I., inzh.

General resistance formula during the comparative movements of particles and medium. Izv.vys.ucheb.zav.; gor.zhur. 7 no.2:170-173 '64. (MIRA 17:3)

1. Karagandinskiy politekhnicheskiy institut. Rekomendovana kafedroy fiziki Karagandinskogo politekhnicheskogo instituta.

UTURASHVILI, T.G.

USSR / Cultivated Plants. Fruits. Berries. H

Abs Jour : Ref Zhur - Biol., No 34709

Authors : Skvortsov, A. F.; Dedabrishvili, N. G.; Uturash-vili, T. G.

Inst : Academy of Sciences, Georgian SSR

Title : Materials for Establishing a System of Soil Maintenance in the Fruit Tree Sovkhozes of Kartli.

Orig Pub : Tr. Onytn. st. plodovodstva AN Gruz SSR, 1956, 4, 37-69.

Abstract : For the cultivation of garden soils, it is recommended that old perennial grass be plowed up across alternating beds and that the entire area be plowed up in an unbroken operation only after 3 years of cultivation. The sowing of perennial grass is then to be performed again, only along

Card 1/3

USSR / Cultivated Plants. White. Cereals.

Abs Jour : Ref Zhur - Biol., No 8, 1953, No 34709

selected land strips and over a base of 20 tons per hectare of manure and NPK. In the crop rotation, perennial grass should occupy 33%, annual weeds 17%, plowed crops 17%, and black fallow 33% of the total area of the garden. Sowing of perennial grass is recommended in the early fall. When the orchard soil was well covered with grass, one observed - a higher sugar content and a lower acidity in the fruits of apple trees grown on such soils, and compared with those grown in black fallow soils. The use of fertilizers entails a slightly lower sugar content and a slightly increased acidity in the fruits, as compared with those of non-fertilized areas. The lowering of the sugar/acid coefficient, as a result of fertilization by minerals only in the period of .

Card 2/3

USSR / Cultivated Plants. Fruits, Berries.

Abs Jour : Ref Zhur - Biol., No 3, 1958, No 14709

harvesting of apples is pointed out; this same coefficient increases during winter storage. The highest losses of dry matter during the storage of apples is observed in fruits grown in black fallow soils. In the alternate method of unbroken grass sowing, the losses of dry matter are somewhat lower than when grasses are only planted in long strips.

Card 3/3

S/837/61/049/000/009/011
B102/B104

AUTHORS: Kas'yan, V. A., and Utusikova, N. G.

TITLE: Determination of the work function of indium antimonide films

SOURCE: Kishinev. Universitet. Uchenyye zapiski. v. 49, 1961, 112-113

TEXT: The work function of n-type InSb with a donor concentration of 10^{15} cm^{-3} is $\varphi = 4.57$ ev as determined by D. Haneman (J. Phys. Chem. Solids, 11, 205, 1959). The work function of n-type InSb films, produced by a method described at p. 69 in this volume, was now determined by measuring the contact potential difference between gold and the film. Anderson's method (Phys. Rev. 47, 958, 1935) was applied. The films investigated had a conductivity of 1 - 15 (ohm·cm)$^{-1}$, $R_{Hall} \approx -50$ cm^3/coul., μ_{Hall}=200-500 cm/v·sec and $n \approx 10^{17}$ cm^{-3}. The samples were degasified at 300°C and the measurements were made at 10^{-7} mm Hg. The Au-InSb contact potential difference was proved to be independent of the film thickness in the range 0.2 - 0.9 μ. For such films φ was found to be 4.42±0.5 ev.

Card 1/2

Determination of the work function ... S/837/61/049/000/009/011
B102/B104

There are 2 figures.

Card 2/2

UTUYZH, A.P., inzh.; RESHETOV, V.P.; MAKAROV, A.F.

Letters to the editor. Put' i put.khoz. 4 no.9:44 S '60.
(MIRA 13:9)

1. Pomoshchnik revizora po bezopasnosti dvizheniya, stantsiya Bryansk, Kalininskog dorogi (for Utyuzh). 2. Nachal'nik distantsii puti, stantsiya Atakrsk, Privolzhskoy dorogi (for Reshetov). 3. Nachal'nik distantsii puti, stantsiya Kovylkino, Kuybyshevskoy dorogi (for Makarov).
(Railroads)

UTYAGANOV, A.A., Veterinarnyy vrach (Denauskiy rayon); YUMAYEV, Kh.M.

Anthelminthic properties of plants of the genus Ferula.
Veterinariia 37 no.9:40-41 S '60. (MIRA 14:11)

1. Glavnyy veterinarnyy vrach Sary-Assiyskogo rayona Surkhan-Dar'inskoy oblasti (for Yumayev).
(Anthelmintics) (Ferula)

UTYAGANOV, F.

Kak my organizuem rabotu po gosudar-
stvennym dokhodam (How we organize accounting on
national income). Moskva, Gosfinizdat SSSR, 1953. 36 p.

SO: Monthly List of Russian Accessions, Vol. 7 No. 2 May 1954

UTYAGANOV, F.

Closer to production. Fin. SSSR 17 no.10:43-46 O '56. (MLRA 9:11)
(Serpuchov--Revenue)

UTYAGANOV, F.

Closer to the enterprise. Fin. SSSR 22 no.3:86-88 Mr '61.
(MIRA 14:7)

1. Starshiy ekonomist gosdokhodov Serpukhovskogo gorfinotdela.
(Serpukhov--Sales tax)

UTYAGANOV, I.

Best drivers of the Kazan First Aid Station. Avt.transp. 32 no.7: 3 of cover Jl '54. (MLRA 7:9)
(Automobile drivers)

L 41184-65

ACCESSION NR: AP4044343 S/0286/64/000/013/0081/0081

AUTHOR: Vishnevskiy, A. P.; Krichevskaya, V. L.; Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. L.

TITLE: An accumulating impulse counter. Class 42, No. 163810

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1964, 81

TOPIC TAGS: impulse counter, capacitance, spectrotron

ABSTRACT: This Author Certificate presents a capacitive accumulating impulse counter (see Fig. 1 of the Enclosure), utilizing a spectrotron as an element for fixing the position of the circuit. This feature enlarges the frequency range of the impulse count and maintains sustained stability in counting infrequent and random impulses. Orig. art. has: 1 figure.

ASSOCIATION: Institut matematiki i vychislitel'nykh tsentr Sibirskogo otdeleniya AN SSSR (Institute of Mathematics and Computer Center, Siberian Division, AN SSSR)

SUBMITTED: 20Mar63 ENCL: 01

SUB CODE: EC NO REF SOV: 000 OTHER: 000

Card 1/2

L 41184-65
ACCESSION NR: AP4044343

0
ENCLOSURE: 01

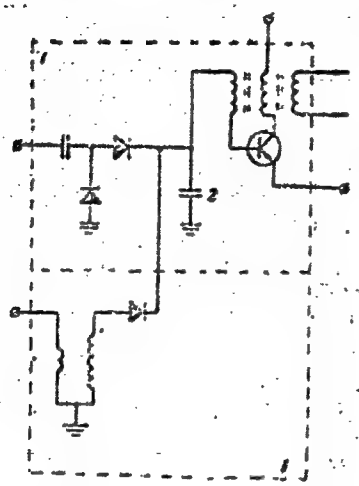


Fig. 1. 1- counter; 2- capacitance; 3- spectrotron.

Card 2/2

me

L 37682-65

ACCESSION NR: AT5008588 S/3005/64/000/007/0032/0041

AUTHOR: Sitnikov, L.S.; Utyakov, L.I. 4 B+1

TITLE: Some possible structures of systems with several stable states

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut avtomatiki i elektrometrii. Trudy, no. 7, 1964. Elektricheskiye tsepi i elementy izmeritel'nykh informatsionnykh sistem (Electric circuits and elements of measuring information systems), 32-41

TOPIC TAGS: scaling circuit, multiply stable circuit, stable state, positive feedback, quadrupole circuit

ABSTRACT: In the past, the construction of devices with several stable states was based on consecutive joining of binary triggering elements. Consequently, such circuits were characterized by a large number of tubes and transistors. The present paper explores the feasibility of systems in which the number of stable states does not depend on the number of tubes or transistors. Such circuits are possible if one utilizes nonlinear elements having several decreasing segments along their respective volt-current characteristics with n such segments with negative slopes one can establish n + 1 stable states. In practice, one has merely, by means of positive feedback, to complete the loops of quadrupole circuits whose amplitude characteristics consists of several alternating segments with

Card 1/3

L 37682-65

ACCESSION NR: AT5008588 0

amplification factors larger and smaller than one, respectively. The authors describe several such circuits with three or more stable equilibria based on the potential trigger principle and with anode-grid couplings. Fig. 1 of the Enclosure illustrates the case with three stable states. Orig. art. has: 1 formula, 10 figures, and 3 tables.

ASSOCIATION: Institut avtomatiki i elektrometrii, Sibirskoye otdeleniye AN SSSR (Institute of Automation and Electrometry, Siberian Division, AN SSSR)

SUBMITTED: 00Oct61 ENCL: 01 SUB CODE: EC, IE

NO REF SOV: 003 OTHER: 000

Card 2/3

ACCESSION NR: AP4045914 S/0119/64/000/009/0001/0003

AUTHOR: Sitnikov, L. S. (Engineer); Utyakov, L. L. (Engineer)

TITLE: Frequency characteristics used for designing multistable systems

SOURCE: Priborostroyeniye, no. 9, 1964, 1-3

TOPIC TAGS: computer, computer circuitry, computer switching, automatic control, automatic control design, automatic control system, automatic control theory

ABSTRACT: A cascade of four units 1—2—3—4 is considered as a multistable system suitable for use in automatic-control and computers; 1 — a voltage-to-frequency converter; 2 — a frequency-to-voltage converter, i.e., a quadripole with a specified comb-type amplitude-frequency characteristic; 3 — a detector with a smoothing filter whose output d-c voltage is proportional to the input-voltage amplitude; 4 — a d-c amplifier. The amplitude characteristic

Card 1/2

ACCESSION NR: AP4045914

$U_{out} = \varphi(U_{in})$ consists of alternating segments having gains $k > 1$ and $k < 1$; the system is provided with a positive-feedback loop. The number of stable states is independent of the number of the components used; it is determined only by the tuning frequency band of the oscillator, the system gain, and the filter characteristic. The theory was verified by an electronic circuit, containing 2 tubes and 1 transistor, which had 6 stable states. Orig. art. has: 5 figures, 6 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00

SUB CODE: DP, IE NO REF SOV: 000 OTHER: 000

Card 2/2

VISHNEVSKIY, A.P.; SITNIKOV, L.S.; UTYAKOV, L.L.

Frequency triggers. Trudy Inst. avtom. i elektrometr. SO AN SSSR no.9:80-87 '64. (MIRA 17:11)

L 51371-65 EWP(k)/EWA(h)/EWT(d)/EWT(l)/EWP(h)/EWP(l)/EWP(v) Pf-4/Peb IS

ACCESSION NR: AT5011628 UR/0000/64/000/000/0549/0553

AUTHOR: Sitnikov, L. S.; Utyakov, L. L. 28 B+1

TITLE: Multifrequency triggers with magnetizable cores 25

SOURCE: Vsesoyuznoye soveshchaniye po magnitnym elementam avtomatiki, telemekhaniki, izmeritel'nov i vychislitel'noy tekhniki. Lvov, 1962. Magnitnye elementy avtomatiki, telem[illegible] (Magnetic elements of automatic control, remote control, measurement and computer engineering); trudy soveshchaniya. Kiev, Naukova dumka, 1964, 549-553

TOPIC TAGS: multifrequency trigger, magnetic core trigger, discontinuous automation

ABSTRACT: Different stable states in systems with several stable states differ from one another by the associated value of some physical parameter. One such parameter may be the frequency (each stable state being characterized by another frequency), and M. S. Neyman emphasized earlier (Radiotekhnika, 1960, no. 10) the [illegible]ure possible uses in discontinuous automation of the shifts from one possible [illegible]-excitation condition to another. In the present work, sponsored by Doctor Technical Sciences V. P. Sigorskiy, the authors discuse several approaches to

Card 1/4

L 51371-65

ACCESSION NR: AT5011628

the construction of multi-frequency triggers. One version comprising a variable frequency generator of sinusoidal oscillations is shown in Fig. 1 of the Enclosure and has n + 1 stable states. They also investigated square-wave starting. Another, three-transistor unit shown in Fig. 2 of the Enclosure has 6 stable states with the following properties: I = 2, 5, 8, 11, 15 and 19 mA and f = 0.85, 1.2, 1.5, 1.75, 1.9 and 2.0 megacycles/sec., respectively, for states No. 1 through No. 6. A further increase in the number of stable states may be attained by utilizing high-quality delay lines with low frequencies and low phase distortions. Orig. art. has: 6 formulas, 5 figures, and 3 tables.

ASSOCIATION: none

SUBMITTED: 29Sep64 ENCL: 02 SUB CODE: EC, DP

NO REF SOV: 003 OTHER: 002

Card 2/4

L 51371-65

ACCESSION NR: AT5011628 ENCLOSURE: 01

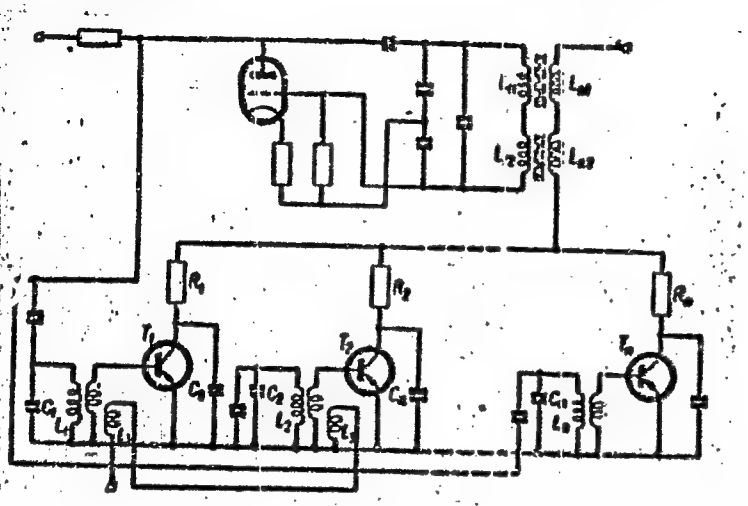


Fig. 1. Multifrequency trigger with a sinusoidal frequency generator.

Card 3/4

L 49263-65
ACCESSION NR: AP5008392 S/0108/64/019/012/0003/0016

AUTHOR: Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. L.

TITLE: General principles for materialization and application of multistable elements

SOURCE: Radiotekhnika, v. 19, no. 12, 1964, 3-16

TOPIC TAGS: multistable element

ABSTRACT: The principles of operation and chief characteristics are considered of these multistable elements: frequency-harmonic type, nonautonomous frequency-harmonic, pulse-duration, and pulse-phase. The multistable elements are likely to be used in nonbinary scalers, digital-analog and analog-digital converters, d-c voltage quanti- and storages, decimal computers. These characteristic features of the multistable elements are noted: (1) The number of stable states is independent of the circuit complexity and is determined only by its

Card 1/2

L 39263-65
ACCESSION NR: AP5008392

mode of operation and component characteristics; (2) Dynamic features of the stable states (such as frequency of harmonic oscillations, duration or phase of a periodic pulse train) do not depend on the multistable element but rather on the external master sources and, hence, are independent of circuit parameters in a fairly wide range; (3) The availability of the various dynamic stable-state features not only permits their use for presentation of numbers but also opens up the possibility for developing a special logic for every feature. Orig. art. has: 15 figures and 8 formulas.

ASSOCIATION: none

SUBMITTED: 09Jun64 ENCL: 00 SUB CODE: EC

NO REF SOV: 004 OTHER: 001

Card 2/2

L 21089-65 EWT(1)/EEC(b)-2/EED-2/EWA(h) Pot: ASD(e)-5/AFMD(p)/AFETR/APTC(b)/
RAEM(d)/RAEM(i)/ESD(c)/ESD(dp)
ACCESSION NR: AP5001988 S/0020/64/159/006/1280/1283

AUTHOR: Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. L.

TITLE: Synthesis of elements with many stable states on the basis of a nonlinear two-port with nonmonotonic response curve

SOURCE: AN SSSR. Doklady, v. 159, no. 6, 1964, 1280-1283

TOPIC TAGS: network synthesis, circuit theory, computer component, multiple state circuit

ABSTRACT: The author first shows qualitatively that the system shown in Fig. 1 of the enclosure and consisting of a nonlinear two-port (φ) and a linear feedback network (β), will have a stable state whenever the plot of the nonlinear two-port crosses the feedback line with a slope smaller than the slope of the line. Since elements with many (more than 2) stable states would be quite useful for computer memory applications, but simple nonlinear two-port networks with sawtooth-like or staircase-like characteristics (which would provide the required crossing of the feedback line) are not readily available, the author outlines briefly a meth-

Card 1/4

L 21089-65

ACCESSION NR: AP5001988

od of synthesizing such a network. An example of such a system, with its block and schematic diagrams and amplitude characteristic, is shown in Fig. 2. The most important advantage of this approach, over the customary method of cascading binary units, is that the number of stable states can be increased within a certain range without the use of additional equipment. Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: Institut matematiki Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Mathematics, Siberian Branch, Academy of Sciences, SSSR)

SUBMITTED: 10May64 ENCL: 02

SUB CODE: EC, DP NR REF SOV: 001 OTHER: 000

Card 2/4

L 21089-65
ACCESSION NR: AP5001988

ENCLOSURE: 01

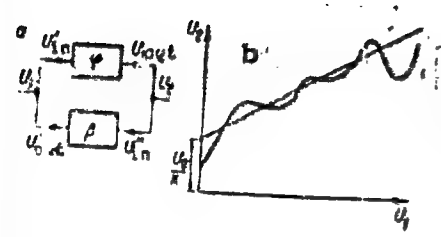


Fig. 1. a - general block diagram of element with many stable states based a nonlinear two-port; b - graphic solution of the system of equations describing the block diagram.

Card 3/4

L 21089-65

ACCESSION NR: AP5001988

ENCLOSURE: 02

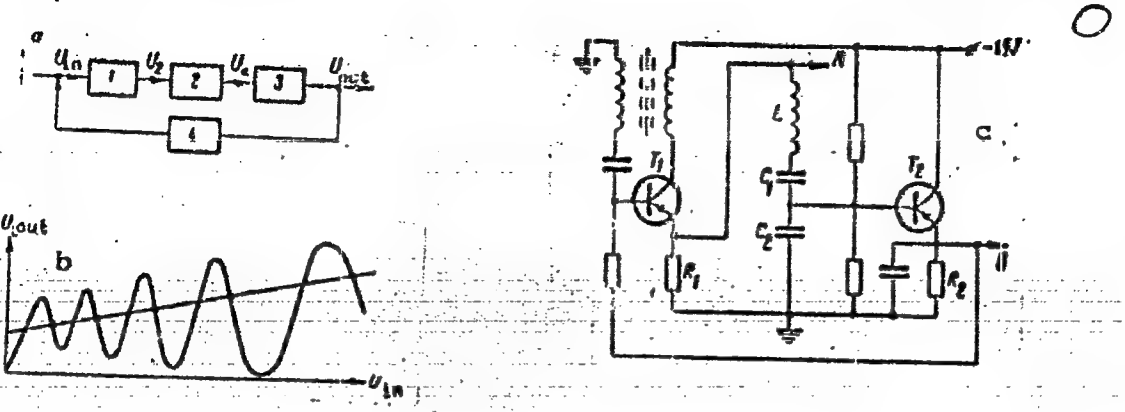


Fig. 3. System with several stable states: a - block diagram, b - amplitude characteristic, 3- schematic diagram

Card 4/4

L 25652-66

ACC NR: AM6011867 Monograph UR/

Sigorskiy, Vitaliy Petrovich; Sitnikov, Leonid Semenovich; Ul'yakov, Lev Lazarevich

Circuits with many stable states. (Skhemy s mnogimi ustoychivymi sostoyaniyami) Novosibirsk, Redizdat Sib. otd. AN SSSR, 1965. 140 p. illus., biblio. (At head of title: Akademiya nauk SSSR. Sibirskoye otdeleniye) 1000 copies printed.

TOPIC TAGS: computer application, computer design, computer research, computer technology

PURPOSE AND COVERAGE: This book is intended for scientific and technical personnel concerned with computers. automation, simulation of processes in the nervous systems of living organisms, and other fields in which circuits with many stable states may find application. The book contains the main results of theoretical and experimental investigations concerned with finding new principles for developing such circuits. The possibility of developing elements with many stable states, whose quantity is determined by the operating conditions and the parameters of the circuit (independent of its complexity), is demonstrated. A method for developing such elements, based on the conversion of static and time characteristics into comb- or step-

Card 1/3

2

L 25652-66

ACC NR: AM6011889

type amplitude characteristics, is proposed. Stability is investigated, and the transients of the general block-diagram of an element with many stable states are analyzed, making it possible to evaluate various control methods from the standpoint of fast response and criticality with regard to the controlling-effect parameters. A number of specific circuits, checked under laboratory conditions, is proposed. Harmonic-frequency (spectrotron), time-pulse (chronotron), and pulse-frequency (synchrotron) circuits proved to be the most promising. In laboratory specimens ten or more states of stable equilibrium were easily obtained. In addition to the authors, A. N. Boyko, A. P. Vishnevskiy, A. A. Molchanov, Yu. S. Osyagin, E. Ye. Bartlemanov, V. A. Yelkin, Ya. Sh. Zakirzyanov and A. K. Turuk participated in the research.

TABLE OF CONTENTS:

Card 2/3

L 25652-66

ACC NR: AM6011889

SUB CODE: 09/ SUBM DATE: 14Jan65/ ORIG REF: 022/ OTH REF: 009

Card 3/3

L 42028-65 EWT(1)/EEC(b)-2/EWA(h) Pm-4 /Pr-4/Pae-4/Pi-4/Peb/Pj-4 JM

ACCESSION NR: AP5010946 UR/0286/65/000/007/0130/0131

AUTHORS: Sigorskiy, V. P.; Fomin, K. G.; Sitnikov, L. S.; Utyakov, L. L.

TITLE: Multistable unit. Class 42, No. 169876

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 130-131

TOPIC TAGS: klystron

ABSTRACT: This Author Certificate presents a multistable unit. To increase the response rate with amplitude state indication, it is made of a reflex klystron whose cavity is connected through a pickup loop to a rectifier head (see fig. 1 on the Enclosure). The rectifier head is connected to a wide-band matching two-terminal pair network whose output is connected between the repeller plate and cathode of the klystron. Orig. art. has: 1 diagram.

ASSOCIATION: none

SUBMITTED: 14Jan63 ENCL: 01 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

Card 1/2

L 42028-65

ACCESSION NR: AP5010946 ENCLOSURE: 01

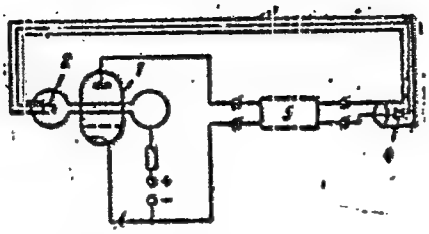


Fig. 1. Multistable unit. 1 - reflex klystron; 2 - pickup loop; 3 - cable; 4 - rectifier head; 5 - matching two-terminal pair network

Card 2/2

L 42042-65 EWT(1)/EWA(h) Peb GG

ACCESSION NR: AP5010948 UR/0286/65/000/007/0131/0132

AUTHOR: Boyko, A. N.; Sigorskiy, V. P., Sitnikov, L. S.; Utyakov, L. L.

TITLE: Reversible counter. Class 42, No. 169879

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 131-132

TOPIC TAGS: reversible counter, counter, pulse counter

ABSTRACT: The proposed reversible counter utilizes a high-stability pulse-phase element. To improve stability, the counter is constructed as shown in Fig. 1 of Enclosure. Orig. art. has: 1 figure. [DW]

ASSOCIATION: Institut matematiki SO AN SSSR (Institute of Mathematics, SO AN SSSR)

SUBMITTED: 04Jun64 ENCL: 01 SUB CODE: EC

NO REF SOV: 000 OTHER: 000 ATD PRESS: 3239

Card 1/2

L 42042-65

ACCESSION NR: AP5010948 ENCLOSURE: 01

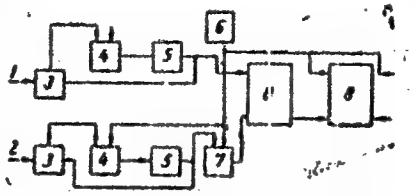


Fig. 1. Reversible counter

1 - Direct-count pulse source; 2 - reverse-count pulse source; 3 - trigger; 4 - AND gate; 5 - shaper; 6 - generator of high-repetition pulses; 7 - anticoincidence circuit; 8 - high-stability pulse-phase element.

Card 2/2

L 42030-65 EWT(1)/EWA(h) Peb

ACCESSION NR: AP5010956 UR/0286/65/000/007/0134/0134

AUTHORS: Boyko, A. N.; Gorodetskiy, V. V.; Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. L.

TITLE: Summator. Class 42, No. 169887

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 134

TOPIC TAGS: summator

ABSTRACT: This Author Certificate presents a summator containing chronotrons, logic "AND" and "OR" circuits, and a transfer shaper circuit. To sum numbers the digital orders of which are represented in the time-pulse form with an arbitrary numerical base, the chronotron storing the digital order of the first term is connected to the chronotron storing the second term and also to the "OR" circuit summing the length of the first term with the unit transfer length (see Fig. 1 on the Enclosure). The output of the "OR" circuit is connected to the "OR" circuit summing the length of the terms and transfer and to the "AND" circuit separating the difference of the sum and the numerical base. The latter two circuits are also connected to the output of the chronotron storing the second term. The output of the circuit summing the length of the terms and transfer is connected to the logic transfer shaper circuit and to the decoupling "OR" circuit whose second input is connected to the "AND"

Card 1/2

L 42030-65

ACCESSION NR: AP5010956

circuit. The output of the "OR" circuit is connected to the hromotron storing the sum. Orig. art. has: 1 diagram.

ASSOCIATION: none

SUBMITTED: 14Jan63 ENCL: 01 SUB CODE: DP

NO REF SOV: 000 OTHER: 000

Card 2/3

L 42035-65 EWT(1)/EWA(h) Peb

ACCESSION NR: AP5010960 UR/0286/65/000/007/0136/0136

AUTHORS: Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. L.

TITLE: Pulse counter with variable scaling factor. Class 42, No. 169893

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 136

TOPIC TAGS: pulse counter

ABSTRACT: This Author Certificate presents a pulse counter with a variable scaling factor, which contains a multistable unit, its triggering circuit, and a selection circuit. To obtain a variable scaling factor with presetting of the instant of the scaling change and of the initial phase while using a phase-pulse multistable unit, the output of the multistable unit is connected to the first input of the phase selection circuit. The second input of the phase selection circuit is connected to the source of pulses determining the instant of the scaling factor change. The third input is connected to the source of pulses setting the initial phase. The output of the phase selection circuit is connected to the recording input of the multistable element of a given stage and to the counter input of the unit of the following stage. To simplify the counter, the phase selection circuit is made of a core with a rectangular hysteresis loop. The core has four coils; the first two

Card 1/2

L 42035-65

ACCESSION NR: AP5010960

input coils are connected in the same way, the third input coil is connected in opposition to the first two, and the fourth coil is the output coil.

ASSOCIATION: Institut matematiki, SO AN SSSR (Institute of Mathematics, SO AN SSSR)

SUBMITTED: 01Jun64 ENCL: 00 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

Card 2/2 DM

L 51414-65 EWT(d)/EED-2/EWP(1) Pq-4/Pg-4/Pk-4 IJP(c) BB/GG
ACCESSION NR: AP5015523 UR/0286/65/000/008/0064/0064
681.14

AUTHOR: Boyko, A. N.; Sitnikov, L. S.; Sigorskiy, V. P.; Utyakov, L. L.

TITLE: An adder. Class 42, No. 170202

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 64

TOPIC TAGS: logic, circuit, adder, computer

ABSTRACT: This Author's Certificate introduces an adder which contains a chronotron, pulse shift logic circuits, flip-flops, "AND" or "OR" logical elements. The device is designed for improving the reliability of adders with pulse-time number representation. The first logical shift circuit is connected to the chronotron where the first addend is stored and to the first input of the second logical shift circuit. The first input of the first logical shift circuit is connected to a source which supplies a sequence of short trigger pulses. The second input of the first logical shift circuit is connected to the carry output for the preceding digit. The second input of the second logical shift circuit is connected to the chronotron where the first addend is stored, while the output of this circuit is

Card 1/4

L 51431-65
ACCESSION NR: AP5015523

connected to the first input of the third logical shift circuit. The second input of the third logical shift circuit is connected to the chronotron where the second addend is stored, the output of the third circuit is connected to the unit input of the first flip-flop for storage of the sum, and the neutral input of this circuit is connected to the source of short trigger pulses. The chronotrons for storage of the first and second addends are connected to the first and second inputs of the "OR" gate respectively. The output of the "OR" gate is connected to the first input of the first "AND" gate. The second input of the "AND" gate is connected to a source of short pulses which are shifted with respect to the pedestal pulse sequence by an interval which corresponds to some number greater than the base of the number system minus 1 and less than the base of the number system. The output of the first "AND" gate is connected to the unit input of the first flip-flop. The neutral input of this flip-flop is connected to a source of pulses which are shifted by half a period. The flip-flop output is connected to the first input of the "AND" gate which forms the carry. The second input of this gate is connected to a source of unit duration pulses. The phase of these pulses coincides with the phase of the pedestal pulse sequence.

ASSOCIATION: Institut matematiki SO AN SSSR (Institute of Mathematics, SO AN SSSR)

Card 2/4

L 51414-65

ACCESSION NR: AP5015523

SUBMITTED: 23Dec63 ENCL: 01 SUB CODE: DP

NO REF SOV: 000 OTHER: 000

Card 3/4

L 51414-65
ACCESSION NR: AP5015523 ENCLOSURE: 01

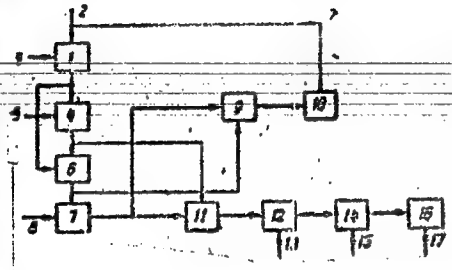


Fig. 1. 1--logical shift circuit; 2--short trigger pulse sequence; 3--carry for previous digital place; 4--chronotron where the first addend is stored; 5--input for the first addend; 6--logical shift circuit; 7--chronotron where the second addend is stored; 8--input for the second addend; 9--logical shift circuit; 10--sum flip-flop; 11--logical "OR" gate; 12--logical "AND" gate; 13--sequence of pulses which are shifted with respect to the pedestal pulses by an interval greater than $R-1$ and less than R, where R is the base of the number system; 14--flip-flop; 15--pulses for return to the initial state which are shifted by half a period with respect to the pedestal pulses; 16--"AND" gate; 17--pulse of unit duration

Card 4/4

L 54551-65 EWT(d)/EED-2/EWP(1) Pq-4/Pg-4/Pk-4 LJP(c) BB/GG
ACCESSION NR: AP5015526 UR/0286/65/000/008/0065/0065

AUTHORS: Sigorskiy, V. P.; Sitnikov, L. S; Utyakov, L. L.

TITLE: Pulse counter modulo n. Class 42, No. 170205

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 55

TOPIC TAGS: pulse counter

ABSTRACT: This Author Certificate presents a pulse counter modulo n containing a multistable unit and a shift circuit. To simplify the device (using a phase-pulse multistable unit with two inputs), the counter input of each multistable unit is connected to the output of a coincidence circuit (see Fig. 1 on the Enclosure). The clock pulse inputs of all the units are connected to a clock pulse generator. The unit outputs are connected to the first input of the coincidence circuit, whose second inputs are connected to the inputs of a reference multistable unit. The coincidence circuit outputs are also connected to the input for resetting the unit to its initial state. The first multistable unit has a scaling coefficient equal to n, and that of the following units is equal to n + 1. Orig. art. has: 1 diagram.

ASSOCIATION: Institut matematiki, SO AN SSSR (Institute of Mathematics, SO AN SSSR)

Card 1/2 submitted: 17 Feb 64

L 54549-65 EWT(d)/EED-2/EWP(1) Pq-4/Pg-4/Pk-4 IJP(c) BB/GG
ACCESSION NR: AP5015527 UR/0286/65/000/008/0066/0066

AUTHORS: Piskunov, S. V.; Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. L.

TITLE: Summator with pulse width representation of numbers. Class 42, No. 170208

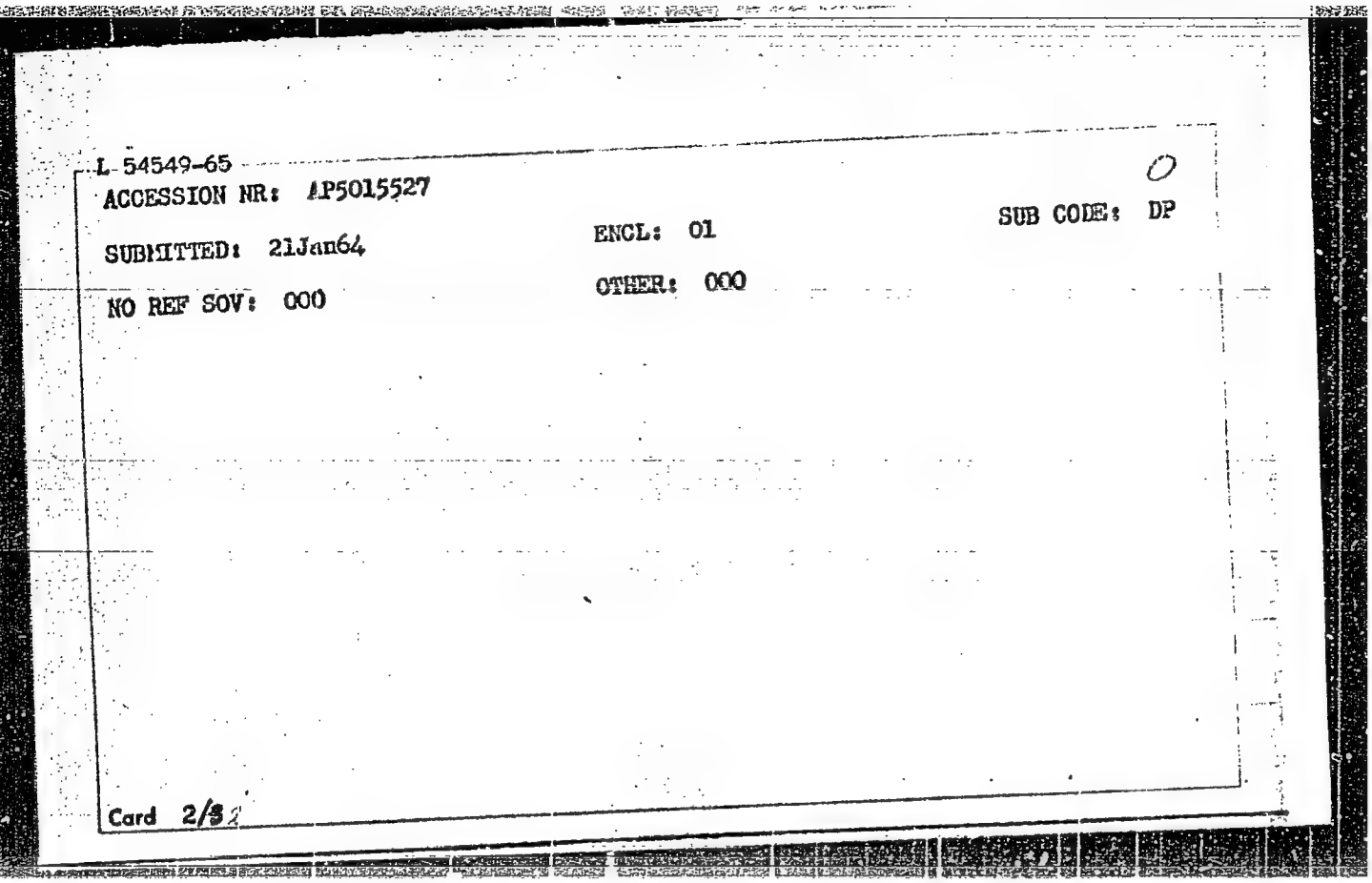
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 66

TOPIC TAGS: summator

ABSTRACT: This Author Certificate presents a summator with pulse width representation of numbers, containing multistable time-pulse units. One unit is connected through an "OR" circuit, which is connected to the transfer output of the preceding summator digit, to the first inputs of a second "OR" circuit and an "AND" circuit, whose second inputs are connected to the other unit (see Fig. 1 on the Enclosure). There are also a third "OR" circuit forming the sum modulo ten and a transfer pulse shaper section. To utilize high stability chronotrons, a shaping circuit is connected between the second and third "OR" circuits. The supply inputs of the multistable time-pulse units are connected to sources of forward and additional reference voltages. Orig. art. has: 1 diagram.

ASSOCIATION: Institut matematiki, SO AN SSSR (Institute of Mathematics, SO AN SSSR)

Card 1/2



L 54549-65

ACCESSION NR: AP5015527

SUBMITTED: 21Jan64

NO REF SOV: 000

ENCL: 01

OTHER: 000

SUB CODE: DP

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Card 2/3

L 54545-65 EWT(d)/EED-2/EWP(1) Pq-4/Pg-4/Pk-4 IJP(c) BB/GG
ACCESSION NR: AP5015531 UR/0286/65/000/008/0067/0067

AUTHORS: Vishnevskiy, A. P.; Koyfman, A. A.; Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. I.

TITLE: Decimal storage summator. 16 Class 42, No. 170212

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 67

TOPIC TAGS: summator, storage device

ABSTRACT: This Author Certificate presents a decimal storage summator containing triggers, switches, and "OR" circuits. To construct the summator of a phase-pulse unit and to decrease its cost, an "OR" circuit (connected to a source of zero reference pulses and to a pulse number detector) is connected to the dynamic input of the phase-pulse unit. The zero trigger input of a phase-to-pulse number converter is connected to the second term pulse source and the one input is connected to the zero reference pulse source. The trigger output is connected to one of the inputs of a coincidence circuit, whose other two inputs are connected to the summation solution output and to a source of clock pulses shifted by half of the high cycle. The coincidence circuit output is connected to one of the inputs of an "OR" circuit, whose other two inputs are connected to the clock pulse source

Card 1/2

L 54545-65
ACCESSION NR: AP5015531

and to the output of the transfer circuit of the preceding digit. The output of the "OR" circuit is connected to the counter input of the phase-pulse unit, whose first output is connected to the zero input of the transfer circuit trigger. The one input of the trigger is connected to a source of pulses shifted by half the period of the clock pulses relative to the zero reference pulses. The trigger output is connected to the first input of an "AND" circuit, whose second input is connected to the second output of the phase-pulse unit.

ASSOCIATION: Institut matematiki, SO AN SSSR (Institute of Mathematics, SO AN SSSR)

SUBMITTED: 10Mar64 ENCL: 00 SUB CODE: DP, EC

NO REF SOV: 000 OTHER: 000

Card 2/2

L 51508-65 EWT(d)/EEC(f)/EXT/EED-2/EWP(1) Pq-4/Pg-4/Pk-4 IJP(c) BB/GG
ACCESSION NR: AP5015339 UR/0286/65/000/009/0092/0092
681.142 65

AUTHOR: Vishnevskiy, A. P.; Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. L.

TITLE: A method for recording and retrieval of information in an N-valued memory. Class 42, No. 170755

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 92

TOPIC TAGS: information storage, computer memory, frequency spectrum, line spectrum

ABSTRACT: This Author's Certificate introduces a method for recording and retrieval of information in an N-valued matrix type spectrotron memory. The method makes use of selected spectrotrons only. In the initial state, the first phase supply voltage is fed to all vertical busses. This voltage has a frequency line spectrum with harmonic phases which are shifted by 120° with respect to the corresponding harmonics of the second phase supply spectrum. The second phase voltage is fed to all horizontal busses. During information recording, a supply spectrum with harmonic

Card 1/2

L 51508-65

ACCESSION NR: AP5015339

phases shifted by 120° with respect to the supply spectra fed to all busses in the initial state is first fed to the horizontal and vertical busses which intersect at the chosen memory element. The horizontal bus is then disconnected from the supply voltage, and the first or third phase of the i-harmonic with frequency which corresponds to the voltage information being recorded is fed to the vertical bus. After the spectrotron circuit is tuned to this frequence, there is a transition to the initial state. The spectrotron then remains tuned to the i-harmonic frequency. In reading out the information from the spectrotron, a voltage with an am frequency spectrum is first fed to the horizontal bus which is connected to the chosen spectrotron, and the vertical bus is connected to the readout amplifier. The output circuits of the readout amplifier are tuned to the upper side frequencies of the am spectrum. The device is then returned to the initial state.

ASSOCIATION: none

SUBMITTED: 14Jan63 ENCL: 00 SUB CODE: DP

NO REF SOV: 000 OTHER: 000

Card 2/2

L 60367-65

ACCESSION NR: AP5019074

UR/0286/65/000/012/0102/0102
681.142.642.9

15
14

AUTHORS: Sitnikov, L. S.; Utyakov, L. L.

TITLE: Scaling circuit. Class 42, No. 172130

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 102

TOPIC TAGS: scaling circuit

ABSTRACT: This Author Certificate presents a scaling circuit containing triggers, coincidence circuits, "OR" circuits, phase-pulse multistable units, a cadence pulse source, and a trigger pulse source. To simplify the device and to increase its reliability, the cadence pulse source is connected through a delay circuit to the first input of a coincidence circuit whose second input is connected to a trigger (see Fig. 1 on the Enclosure). The one input of the trigger is connected to the trigger pulse source, and its zero input is connected to the counter input of the scaling circuit which is connected through a shaper to the coincidence circuit input. The cadence pulse generator is connected to all the first inputs of the "OR" circuits which are connected to the inputs of the phase-pulse units. The second input of the first "OR" circuit of any following unit is connected to the inputs of the preceding. The scaling coefficient of the phase-pulse unit of

Card 1/3

L 60367-65

ACCESSION NR: AP5019074

the first digit is per unit less than the scaling coefficient of the remaining phase-pulse units. Orig. art. has: 1 diagram.

ASSOCIATION: Institut matematiki, SO AN SSSR (Institute of Mathematics, SO AN SSSR)

SUBMITTED: 04May64 ENCL: 01 SUB CODE: DP, EC

NO REF SOV: 000 OTHER: 000

Card 2/3

L 60367-65

ACCESSION NR: AP5019074

ENCLOSURE: 01

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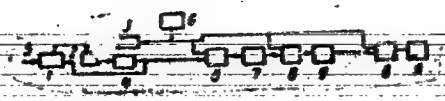

Fig. 1.
1- trigger; 2- "AND" circuit; 3- delay circuit; 4- shaper;
5- counter pulse input; 6- cadence pulse generator;
7- phase-pulse unit with scaling coefficient n = 1;
8- two-way "OR" circuit; 9- phase-pulse multistable unit
with scaling coefficient n

Card 3/3KC

L 2775-66 EWT(d)/EED-2
ACCESSION NR: AP5022018 UR/0286/65/000/014/0087/0088

AUTHOR: Zakirzyanov, Z. Sh.; Sitnikov, L. S.; Utyakov, L. L. 44 44 44 40 38 B

TITLE: A pulse repetition frequency divider. Class 42, No. 173032

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 87-88

TOPIC TAGS: pulse recurrence, pulse position modulation, frequency divider 9, 44

ABSTRACT: This Author's Certificate introduces a pulse repetition frequency divider which contains multistable pulse-position elements. The device is designed for giving frequency division coefficients as high as desired and output pulse repetition frequencies as low as desired with a rather simple circuit and unified division stages. The input to each pulse-position element is connected through a two-input OR gate to the input of the preceding pulse-position element and to the input of the external pulse source. The input to the first pulse-position element is connected to the external pulse source. The outputs from the first and second elements are connected to the inputs of the first coincidence gate. The output from the first coincidence gate and that from the third pulse-position element are connected to the inputs of the second coincidence gate. The output from the *k*-th coincidence gate and

Card 1/3

L 2775-66

ACCESSION NR: AP5022018

2

from the (k-2)-th pulse-position element are connected to the (k-1)-th coincidence gate.

ASSOCIATION: Institut matematiki SO AN SSSR (Institute of Mathematics, SO AN SSSR)

SUBMITTED: 21Jul64 ENCL: 01 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

Card 2/3

L 2775-66

ACCESSION NR: AP5022018 ENCLOSURE: 01

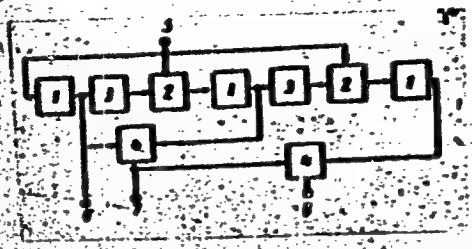

Fig. 1. 1--multistable pulse-position element; 2--OR gate; 3--delay cell; 4--coincidence gate; 5--cadence frequency pulse input; 6--first output; 7--second output; 8--third output

Card 3/3 hd

L 7039-66 EWT(d)/EWP(1) IJP(c) BB/GG

ACC NR: AP5026810 SOURCE CODE: UR/0286/65/000/017/0092/0092

AUTHOR: Sigorskiy, V. P.; Sitnikov, L. S.; Utyakov, L. L.

ORG: none

TITLE: A parallel cumulative decimal summation unit. Class 42, No. 174439 [announced by Institute of Mathematics, Siberian Department, AN SSSR (Institut matematiki Sibirskogo otdeleniya AN SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 92

TOPIC TAGS: arithmetic unit, computer component, flip flop circuit, coincidence circuit, adder

ABSTRACT: This Author's Certificate introduces a parallel cumulative decimal summation unit which contains multistable pulse-position elements, "OR" gates, flip-flops and coincidence circuits. The circuitry of the device is simplified by connecting the input of the multistable pulse-position cell for each digit through an "OR" gate to the output of the coincidence circuit for the preceding digit, and to the output of the dynamic flip-flop for the given digit. The set terminal of this flip-flop is connected to the addend pulse source, the reset terminal is connected to the pedestal pulse train source, and the cadence pulse input is connected to the cadence pulse source..

Card 1/2 UDC: 681.142.07

L 7039-66

ACC NR: AP5026810

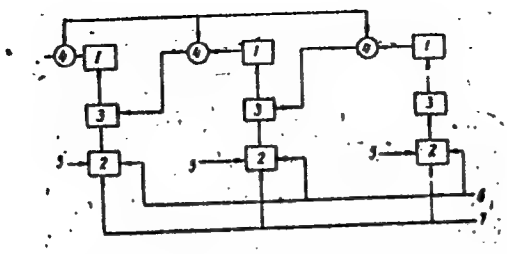

Fig. 1. 1--multistable pulse-position cell; 2--dynamic flip-flop; 3--"OR" gate; 4--nonsimultaneous coincidence circuit; 5--addend pulse input; 6--cadence pulse input; 7--pedestal pulse train input

SUB CODE: DP,EC/ SUBM DATE: 03Aug64/ ORIG REF: 000/ OTH REF: 000

EC

Card 2/2

SIGORSKIY, Vitaliy Petrovich; NITNIKOV, Ivan[illegible] Petrovich,
UTYAKOV, Lev Lazarevich, [illegible], red.

[Networks with multiple steady-states] Skhemy s mnogimi ustoichivymi sostoyaniiami. Novosibirsk, Red.izd- otdel Sibirskogo otd-niia AN SSSR, 1965. [illegible] p. (MIRA 18:11)

L 20665-66 EWT(1)/EWA(h)
ACC NR: AP6004556 SOURCE CODE: UR/0103/66/000/001/0133/0138

AUTHOR: Sigorskiy, V. P. (Kiev); Sitnikov, L. S. (Kiev); Utyakov, L. L. (Kiev)

ORG: none

TITLE: Chronotrons: time-pulsed multistable elements

SOURCE: Avtomatika i telemekhanika, no. 1, 1966, 133-138

TOPIC TAGS: pulse generator, pulse modulation, pulse rate, chronotron

ABSTRACT: It was shown earlier by the authors that a chronotron may be designed by incorporating a four-terminal network in a feedback loop. One of the common versions of such a four-terminal network is shown in Fig. 1.

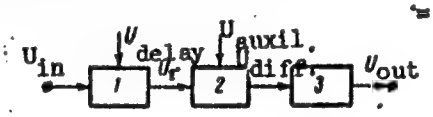

Fig. 1. An all-purpose four-terminal network.
1 - controlled delay; 2 - switching block;
3 - averaging filter.

Card 1/2

L 20665-66
ACC NR: AP6004556

The authors investigate this and other versions of multistable elements which are characterized by their d-c output voltage and the duration of the square wave pulses. The paper contains a brief outline of the theory, block diagrams of the elements, graphs of the voltages, and a circuit diagram. The control of such an element, i.e., the shift of its operation from one steady state to another is carried out by switching the circuit briefly from the univibrator output to an external source of pulses having the required duration. Orig. art. has: 6 formulas, 8 figures, and 1 table. [08]

SUB CODE: 09 / SUBM DATE: 19May65 / ORIG REF: 003/ ATD PRESS: 4223

Card 2/2 BK

L 30400-66 EWT(d)/FSS-2

ACC NR: AP6007864 SOURCE CODE: UR/0103/66/000/002/0076/0081

42
B

AUTHOR: Sigorskiy, V.P. (Kiev); Sitnikov, L.S. (Kiev); Utyakov, L.L. (Kiev)

ORG: none

TITLE: Pulse-frequency multistable components

SOURCE: Avtomatika i telemekhanika, no. 2, 1966, 76-81

TOPIC TAGS: electronic component, stabilizer, RF pulse, frequency stability

ABSTRACT: The present article investigates the means of development and the basic characteristics of multistable components of a group the states of which are distinguished according to the value of the output voltage of the frequency sequence of the pulses generated. For the development of such components use may be made of the nonlinear four-pole component, which includes the converters of voltages into frequency sequences of pulses and frequencies into voltage. It is concluded that when a synchronized controlled relaxation generator is included in a feedback loop with an inertia link there is the possibility of creating sufficiently simple components with many unstable states, distinguished by an oscillation period of the relaxation generator and the magnitude of the control voltage at the output of the discriminator. The magnitude of the state is controlled by altering the frequency of the sequence of synchronization pulses. The advantage of the proposed device is that even with the utilization of the generator with the nonlinear control characteristic its period of oscillation in the transition of the component from any state to a neighboring state changes by a rigidly

UDC: 621.372.161.4

Card 1/2

L 30400-66

ACC NR: AP6007864

fixed constant equal to the synchronization voltage period. The utilization of the relaxation generator with linear control makes it possible to considerably increase the number of stable states and to assure a constant increment of the control voltage in the transition of one state to another. Orig. art. has: 6 figures, 7 formulas, and 3 tables.

SUB CODE: 09 / SUBM DATE: 01Sep64 / ORIG REF: 002

Card 2/2

ACC NR: AP7005660 SOURCE CODE: UR/0413/67/000/002/0177/0118

INVENTOR: Korneychuk, V.I.; Romankevich, A.M.; Sitnikov, L.S.; Utyakov, L.L.

ORG: none

TITLE: Logic element. Class 42, No. 190668 [announced by the Cybernetics Institute, AN UkrSSR (Institute kibernetiki AN UkrSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 117-118

TOPIC TAGS: logic element, computer circuit, SWITCHING CIRCUIT, FERRITE CORE MEMORY

ABSTRACT:

A logical element which operates on the basis of pulse-position representation of numbers is introduced (see Fig. 1). It consists of coincidence switching circuits and ferrite cores with read, write, restoration, and output windings. In order to process the characteristic function

Card 1/2 UDC: 681.142.07

ACC NR: AP7005660

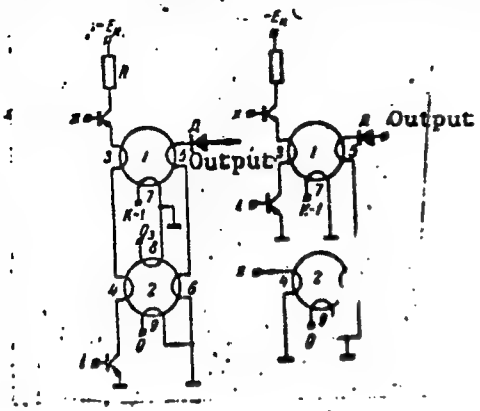

Fig. 1. Logic element

1, 2 - Ferrite cores; 3, 4 - input windings; 5, 6 - output windings; 7, 8 - read windings; 9 - restoration winding; x, i - input signals.

$$ji(x) = \begin{cases} k-1 & \text{for } x = i \\ 0 & \text{for } x \neq i, \end{cases}$$

where x and i = 0, 1, 2... k - 1, the input windings are connected in parallel and the output windings in series. Both types of winding are connected through a diode to the output terminals of the device. In order to process the characteristic function ji(x) at i = 0, the input winding is located on a single core. Orig. art. has: 1 figure. [09]

SUB CODE: 09/ SUBM DATE: 150ct65/ ATD PRESS: 5116

Card 2/2

VISHNEVSKIY, A.P.; UTYAKOV, L.P.

Dynamic trigger device based on a multivibrator. Radiotekh. i elektron. 11 no.1:111-115 Ja '66. (MIRA 19:1)

1. Submitted September 3, 1964.

UTLYAKOV, M.; PINEGIN, A.

Boots and Shoes - Trade and Manufacture

Competition in cost reduction. At the Kirov leather footwear combine, Leg. prom., No. 1,1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.

MALYSHEV, A.A., kand.sel'skokhoz.nauk; PATRABOLOVA, I.G., kand.biolog. nauk; UTYAKOV, P.A.; UTYAKOVA, D.P.; INYAKOVA, A.P., mladshiy nauchnyy sotrudnik; VINTER, A.L., vrach; PRONSKAYA, K.I., red.; STEBLYANKO, T.V., tekhn.red.

[Teberda; sketches of the Teberdinskiy Preserve] Teberda; ocherki o Teberdinskom zapovednike. Stavropol', Stavropol'skoe knizhnoe izd-vo, 1958. 153 p. (MIRA 12:12)
(Teberdinskiy Preserve)

AKIF'YEVA, K. V.; BELINSKIY, V. A.; BRYUKHANOV, A. V.; VLADIMIROVA, G. A.; MAKHOVA, Yu. V.; MALINOVSKAYA, N. M.; MYAGKOV, S. M.; NORMAN, E. A.; SEMEKHIN, Yu. V.; TARASOV, G. K.; TUSHINSKIY, G. K.; UTYAKOV, P. A.; FAMINTSYN, B. M.; SHATERNIKOVA, I. S.; SHAMSHIYEV, K. M.

Estimation of the danger of avalanches in high mountain areas designated for development. Inform. sbor. o rab. Geog. fak. Mosk. gos. un. po Mezhdunar. geofiz. godu no.8:27-163 '62. (MIRA 16:1)

(Caucasus—Avalanches)

MALYSHEV, A.A., kand.sel'skokhoz.nauk; PATRABOLOVA, I.G., kand.biolog. nauk; UTYAKOV, P.A.; UTYAKOVA, D.P.; INYAKOVA, A.P., mladshiy nauchnyy sotrudnik; VINTER, A.L., vrach; PROMSKAYA, K.I., red.; STEBLYANKO, T.V., tekhn.red.

[Teberda; sketches of the Teberdinskiy Preserve] Teberda; ocherki o Teberdinskom zapovednike. Stavropol', Stavropol'skoe knizhnoe izd-vo, 1958. 153 p. (MIRA 12:12)
(Teberdinskiy Preserve)

UTYAMYSHEV, M.

Plant volunteers and work problems. Sots.trud 8 no.4:59-62 Ap '63. (MIRA 16:4)

(Tatar A.S.S.R.—Industrial management)
(Tatar A.S.S.R.—Auditing and inspection)

UTYAMYSHEV, Rustam Ismailovich, inzh.; SHTEYNBOK, G.Yu., inzh., red.; SOROKINA, T.M., tekhn. red.

[RET-1 electronic flowmeter]Elektronnyi raskhodometr RET-1. Moskva, Filial Vses.in-ta nauchn. i tekhn. informatsii, 1958. 11 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 34. No.P-58-41/4) (MIRA 16:3)

(Flowmeters)

UTYAMYSHEV, Rustam Ismailovich; MORDVINOVA, N.P., inzh., ved. red.; SOSNOVSKIY, A.A., inzh., red.; SOROKINA, T.M., tekhn.red.

[GP-200 system for determining the interference rejection of radio apparatus] Ustanovka GP-200 dlia opredeleniia pomekhoustoichivosti radiotekhnicheskikh ustroistv. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 15 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 36. No.P-58-24/7) (MIRA 16:3)
(Radio measurements) (Radio--Interference)
(Interferometer)

UTYAMYSHEV, Rustam Ismailovich; MORDVINOVA, N.P., inzh., ved. red.; VORODIN, B.A., inzh., red.; SOROKINA, T.M., tekhn. red.

[Apparatus for precise measurement of the frequency of power surply sources in a frequency range of 300 to 1500 c.p.s.] Apparatura dlia tochnogo izmereniia chastoty istochnikov elektricheskoi energii v diapazone 300-15-- gts. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 23 p. (Peredovoi nauchn. i proizvodstvennyi opyt. Tema 36. No.P-58-39-10) (MIRA 16:3)

(Frequency measurements)
(Electric power supply to apparatus)

UTYAMYSHEV, Rustam Ismailovich, inzh.; MORDVINOVA, N.P., inzh., ved. red.; SOROKINA, T.M., tekhn. red.

[12 KST tachometer with the TP-12 attachment]Takhometr 12 KST s pristavkoi TP-12. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 27 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 31. No.P-58-10/1) (MIRA 16:3)
(Tachometer)

UTYAMYSHEV, Rustam Ismailovich; SHTEYNBOK, G.Yu., inzh., ved. red.; VORODIN, B.A., inzh., red.; SOROKINA, T.M., tekhn. red.

[Highly stable electronic IV-2S microsecond meter with quartz stabilization and IG-1 device for checking and calibrating precision-type electronic microsecond and millisecond meters] Vysokostabil'nyi elektronnyi mikrosekundomer IV-2S s kvartsevoi stabilizatsiei i pribor IG-1 dlia proverki i kalibrovki tochnykh elektronnykh mikro- i millisekundomerov. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 28 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 31. No.P-58-37/7) (MIRA 16:3)
(Electronic measurements) (Time measurements)

UTYAMYSHEV, R.I.

Using the frequency method for precision measurement of angular velocity. Izm.tekh. no.2:35-36 Mr-Ap '58. (MIRA 11:3)
(Electronic instruments)

119-58-5-10/11

AUTHOR: Utyamyshev, R.I.

TITLE: An Accurate Device for Measuring the Angular Velocity of a Micrometer (Tochnyy pribor dlya izmereniya uglovoy skorosti mikrodvigateley)

PERIODICAL: Priborostroyeniye, 1958, Nr 5, pp. 30-31 (USSR)

ABSTRACT: In principle this device operates as a heterodyne tachometer which measures the difference between the frequencies of two alternating currents within a narrow domain. On the axis of the motor to be investigated a light metal disk is fastened which has semi-circular incisions on its edge. From a light source the light penetrates through the incisions to the photoresistance of the transducer. A semicrystalline sulfur-cadmium resistance of the type F S K -1 serves as transducer.
A modulation of the light current having a frequency which is proportional to the rotation velocity and to the number of the incisions in the disk takes place during rotation of the disk. The modulation of light causes a change of conductivity of the photoresistance and causes an impulse-like current within the circuit

Card 1/2

An Accurate Device for Measuring the Angular Velocity of a Micrometer

119-58-5-10/11

of the transducer.
Two quartz generators are used for comparison of the induced current frequency. The actual frequency difference obtained in a mixed cascade is derived from the relation:

$$\Delta F = F_Q - \frac{n}{60} s$$

where F_Q denotes the frequency of the quartz generator, n - rotation number of the electromotor, and s - number of the incisions in the disk.
The frequency difference obtained is amplified in a special device and transferred to the device recording angular velocity.
A short description of the test stand is given. There are 4 figures.

AVAILABLE: Library of Congress

1. Laboratory equipment--Characteristics 2. Angular velocity --Measurement

Card 2/2

SOV-120-58-3-13/33

AUTHOR: Utyamyshev , R. I.

TITLE: An Instrument for the Accurate Measurement of Frequency (Pribor dlya tochnogo izmereniya chastoty)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 3, pp 60-65 (USSR)

ABSTRACT: The instrument can be used for the measurement of frequencies from 100 c/s to 100 kc/s, angular velocities from 100 to 100 000 rpm and time intervals ranging from 100 μs to 1000 s; the error of the instrument is 0.01%. The device employs a standard quartz oscillator operating at a frequency of 10 kc/s. The frequency is divided by a number of stages down to 1 c/s. The frequency divider stages are either in the form of multivibrators or Eccles-Jordan trigger circuits. The pulses from the last stage, having the frequency of 1 c/s, are applied to a control amplifier which is normally cut off by the negative voltage applied to it from a symmetrical Eccles-Jordan circuit. The same voltage also blocks a gating amplifier and a signal pre-amplifier. The input signal should be not less than 1 v. The signal is shaped into a rectangular pulse whose duration and amplitude are independent of the input voltage. The pulses thus

Card 1/3

SOV-120-58-3-13/33

An Instrument for the Accurate Measurement of Frequency

obtained are applied to a counter consisting of 5 decades and capable of recording up to 100 000 pulses. The block schematic of the instrument is shown in Fig.1. A detailed circuit diagram of the device (without power supplies and the counter) is shown in Fig.2. Operation of the circuit of Fig.2 is discussed in detail. The instrument can be used to register single counts or periodically repeated counts; in the latter case, the counter is on for a definite time interval; the registered count is displayed for a definite duration and the counter is then reset to zero. The instrument is fitted with a synchronous induction pick up, having 120 poles which can be used

Card 2/3

SOV-120-58-3-13/33

An Instrument for the Accurate Measurement of Frequency

to convert the angular velocity into a sinusoidal waveform. The paper contains 3 figures and 14 references; 10 of the references are Soviet and 4 are English.

SUBMITTED: September 17, 1957.

1. Frequency--Measurement 2. Frequency meters--Design 3. Crystal oscillators--Applications 4. Time-interval counters--Applications

Card 3/3

SOV/120-58-4-13/30

AUTHOR: Utyamyshev, R.I.

TITLE: A Heterodyne-Type Instrument for the Accurate Measurement of Angular Velocities (Techometer) (Geterodinnyy pribor dlya tochnogo izmereniya uglovykh skorostey)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 4, pp 66-68 (USSR)

ABSTRACT: The operating principle of the instrument is based on heterodyning the frequency of a transducer with a known standard frequency and measuring the difference of the two frequencies by means of a magnetic tachometer whose scale is directly calibrated in rpm; the scale reading is proportional to the frequency difference $\Delta F = (F_o - F_D)$ where F_o is the standard frequency and F is the transducer frequency. The instrument can operate in conjunction with an induction or a photoelectric transducer. The operating scale of the instrument is divided into two ranges: a) 110-1100 rpm and b) 1100-11 100 rpm. Each range is divided into 20 sub-ranges; each sub-range in the lower

Card 1/3

A Heterodyne-Type Instrument for the Accurate Measurement of Angular Velocities

range is equal to 50 rpm while in the upper range it is equal to 500 rpm. The division of the ranges into sub-ranges is done by employing 20 quartz-crystal resonators. The quartz oscillators employed have a frequency stability of 0.01%. The block diagram of the instrument is shown in Fig.1, while its detailed electrical circuit is given in Fig 2. The instrument consists of the following principal units: 1) a switching device and a set of quartz crystals, 2) a crystal oscillator, 3) a cathode follower, 4) a mixer stage, 5) and 6) photo-electric transducers, 7) a pre-amplifier, 8) the second cathode follower, 9) a selective amplifier, 10) an amplifier and a phase inverter, 11) the final amplifier, 12) the meter, 13) an inductive transducer and 14) a crystal oscillator for controlling the system. The quartz-crystal oscillators are based on an RC circuit (see Fig.2). The instrument can be used over a range extending from 110 to 11 100 rpm and gives an error of ±0.25 rpm. The operating range is changed by

SOV/120-58-4-13/30

A Heterodyne-Type Instrument for the Accurate Measurement of Angular Velocities

changing the frequency of one of the standard crystal oscillators. The paper contains 3 figures and 5 Soviet references.

SUBMITTED: September 19, 1957.

Card 3/3

SOV/119-59-2-14/17

9(1), 11(4)

AUTHOR: Utyamyshev, R. I., Engineer

TITLE: Electronic Instrument for Measuring Fuel Consumption by Means of an Unloaded Fan (Elektronnyy izmeritel' raskhoda topliva s nenagruzhennoy vertushkoy)

PERIODICAL: Priborostroyeniye, 1959, Nr 2, pp 29 - 30 (USSR)

ABSTRACT: For measuring the consumption of liquid fuel the instrument is equipped with a fan the rotation speed of which is by means of photocells transformed into an electric frequency. This frequency is measured by a synchronous magnetic inductive indicator. The fan is situated in a partly transparent measuring head which is inserted into the fuel line. By the rotation of the fan which continuously interrupts a light ray channel the exposure of a photoresistance type FSK-2 is modulated in proportionality to the rotation speed and the number of vanes of the fan . The pulsating current generated by the photoresistance is amplified by an amplifier to a certain size and gets from there to the measuring instrument. The entire apparatus has a measuring

Card 1/2

Electrical Instrument for Measuring Fuel Consumption by Means of an Unloaded Fan SOV/119-59-2-14/17

accuracy of ± 0.5% within the range of 10000-400000 l/h (consumption). The rotation speed of the fan varies between 75 and 3000 revs.p.m. There are 2 figures.

Card 2/2

9(6)

SOV/119-59-4-15/18

AUTHOR: Utyamyshev, R. I., Engineer

TITLE: An Automatically Recording Differential Speedometer With Automatic Quartz Commutation (Differentsial'nyy samopishushchiy takhometr s avtomaticheskoy kommutatsiyey kvartsev)

PERIODICAL: Priborostroyeniye, 1959, Nr 4, p 29 (USSR)

ABSTRACT: It occurs frequently in tests and investigations of various technical installations that an automatic recording of rotary speed becomes necessary. A high recording accuracy can be achieved if the principle of heterodynamic frequency comparison between the primary control element of the speedometer and of the quartz oscillator is employed. If several standard-frequency quartzes are used this will provide a wide range of measurement, which can be subdivided into corresponding sections. It becomes evident that if recording is done automatically, the quartz resonators must also be commuted automatically in order to provide for similar frequencies in the primary speedometer element and in the quartz oscillator. The device described is fitted with standard aviation speedometers, which can be used with primary

Card 1/2

elements of the type D-10, 2UG1-48 or with any other synchronous transducers. The component parts of this device are briefly described. A photoresistor of the type FSA-1 is used as a frequency multiplier. The deflection of the pointer is exactly proportional to the rotary speed. The standard-frequency quartz resonators are connected in correspondence with the rotary speed to be measured. The quartz commutor discussed in this paper operates with a photoelectric frequency multiplier and with a converter of the difference frequency based upon an induction-optical principle. Its use results in a considerable increase of the accuracy in recording. This Automatic Recorder is intended for a frequency range from 3000 - 12000 revs/min. Its accuracy under laboratory conditions amounts to $\pm$ 0.03 % . If the ambient temperature varies by $\pm$ 60° C it the error increases only to 0.08 %. The frequency range of the automatic recorder can be varied arbitrarily by a change of the rated frequency of the standard-frequency quartzes or by a modification of the number of holes in the rotating disk of the frequncy multiplier. There are 1 figure and 1 Soviet reference.

UTYAMYSHEV, Rustam Ismailovich; LYUSTIBERG, B.F., red.; VORONIN, K.P., tekhn. red.

[Measuring rate of rotation] Tekhnika izmereniia skorostei vrashcheniia. Moskva, Gos. energ. izd-vo, 1961. 102 p. (MIRA 14:9)

(Tachometer)

UTYAMYSHEV, R.I.

Electronic stroboscopic device with quartz-crystal control. (MIRA 14:12)
Priborostroenie no.12:26 D '61.
(Stroboscope)

88802

S/019/60/000/024/081/123
A156/A027

26.2194

AUTHOR: Utyamyshev, R.I.

TITLE: An Instrument for Registering the Speed of Rotation of a Shaft

PERIODICAL: Byulleten' izobreteniy, 1960, No. 24, pp. 56-57

TEXT: Class 42o, 10. No. 134493 (656354/26 of February 26, 1960). This instrument contains a transmitter-synchronous generator (kinematically linked with the shaft) and a synchronous electric motor electrically-connected with the generator and carrying a mirror drum on its spindle whose facets reflect the light ray upon the whole width of photo-film. For the purpose of increasing the accuracy of operation, the new model is fitted with a conversion scheme (circuit), with a quartz generator connected to it, which controls the pulse tube and is triggered-off when the mirror drum stands in an initial angular position.

Card 1/1

SOV/19-58-4-370/523

AUTHOR: Utyamyshev, R.I.

TITLE: A Method for the Stroboscopic Measurement of Rotation Speed (Sposob stroboskopicheskogo izmereniya skorosti vrashcheniya)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 4, p 94 (USSR)

ABSTRACT: Class 42c 13/02. Nr 112426 (585233, 28 October 1957). Submitted to the Committee for Inventions and Discoveries at the USSR Council of Ministers. The accuracy of stroboscopic measurements of rotation speed is increased by selecting a frequency of the master generator several times higher than the synchronous frequency of the rotation of the object being measured by a heterodyne frequency meter and compared by a magnetic tachometer driven by a hysteresis motor with the rotation frequency of the object being measured.

Card 1/1

AUTHOR: Utyamyshev, R.I. SOV-19-58-2-168/551

TITLE: A Device for Measuring the Frequency of Alternating Current (Pribor dlya izmereniya chastoty peremennogo toka).

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 2, p 40 (USSR)

ABSTRACT: A device for measuring the frequency of alternating current (Registration of Inventions Class 21e, 36, Nr 111121) with an electronic computing device, a quartz generator and a pickup converting the angular velocity into electric oscillations. The device permits simultaneous automatic measurement of the angular velocity and of the duration of this measurement.

1.Alternating current--Testing equipment 2. Frequency--Measurement 3. Mathematical computers--Applications

Card 1/1

AKULINICHEV, I.T.; ANDREYEV, L.F.; BAYEVSKIY, R.M.; BAYKOV, A.Ye.: BUYLOV, G.G. GAZENKO, O.G.; GRYUNTAL', R.G.; ZAZYKIN, K.P.; KLIMENKOV, Yu.F.; MAKSIMOV, D.G.; MERKUSHKIN, Yu.G.; MONAKHOV, A.V.; PETROV, A.P.; RYABCHENKOV, A.D.; SAZONOV, N.P. ; UTYAMYSHEV, R.I.; FREYDEL', V.R.; KHIL'KEVICH, B.G.; SHADRINTSEV, I.S.; SHEVANDINA, S.B.; ESAULOV, N.G.; YAZDOVSKIY, V.I.

Method and means of medical and biological studies in a space flight. Probl. kosm. biol. 3:130-144 '64. (MIRA 17:6)

L 34830-66

ACC NR: AP6021804 SOURCE CODE: UR/0413/66/000/012/0072/0073

INVENTOR: Baburin, V. A.; Kalashnikov, V. P.; Utyamyshev, R. I.

ORG: none

TITLE: Device for measuring arterial blood pressure. Class 30, No. 182848

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 72-73

TOPIC TAGS: arterial pressure, arterial pressure sensor, hemodynamics, human physiology

ABSTRACT: An Author Certificate has been issued for a device which measures arterial blood pressure. It consists of compressed air cylinders, a cuff with an oscillation

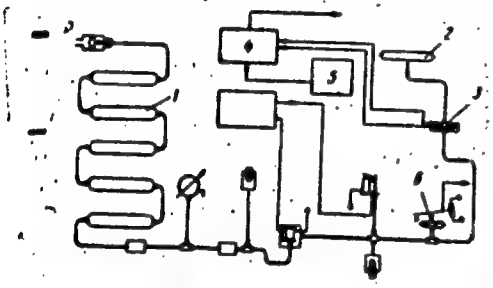

Fig. 1. Device for measuring arterial blood pressure

1 - Compressed air cylinders; 2 - cuff; 3 - oscillation sensor; 4 - amplifier; 5 - stabilized power source; 6 - pressure sensor.

Card 1/2 UDC: 615.471:612.143

L 34857-66

ACC NR: AP6014075

ordinary or oxygen-enriched air are assumed. The gas temperatures were assumed: before the channel: 2500, 2600, 2700C; after the channel: 2250, 2100C. Initial steam parameters for turbines, 240 atm, 580C. These conclusions are offered: (1) With ordinary-air preheating to 1500—2000C, the power-plant efficiency could reach 50—60% which considerably exceeds that of any other type of power plant; (2) The most important problem for materialization of such power plants is the constructing of magnetic systems with an induction of 4—6 web/m^2; (3) Methods are needed for obtaining high temperatures of the combustion products with limited air preheating. The flue loss of the ionizing agent (K_2CO_3) can appreciably offset the MHD-plant savings if the fuel is cheap; hence, the MHD plants seem to be promising for the areas of high- or medium-price fuels. Orig. art. has: 3 figures, 2 formulas, and 2 tables.

SUB CODE: 10 / SUBM DATE: 01Dec65

Card 2/2

L 34811-66 EWT(1) SCTB DD

ACC NR: AP6021805 SOURCE CODE: UR/0413/66/000/012/0073/0074

32
B

INVENTOR: Antonov, A. A.; Yevteyev, K. M.; Utyamyshev, R. I.

ORG: none

TITLE: Bipolar preamplifier of bioelectric potentials. Class 30, No. 182850

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 73-74

TOPIC TAGS: bioelectricity, bioelectric potential, preamplifier, neurophysiology, BIOELECTRIC PHENOMENON

ABSTRACT: An Author Certificate has been issued for a bipolar preamplifier of bioelectric potentials consisting of two transistorized amplifier stages and a power

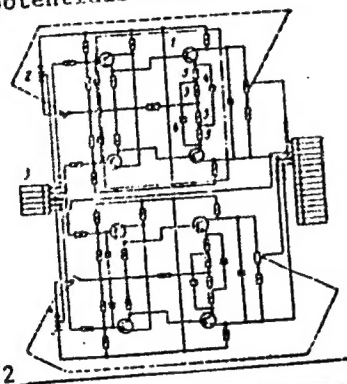

Fig. 1. Bipolar preamplifier

1 - Transistorized amplifier stages; 2 - power source; 3 - galvanic input; 4 - condensors; 5 - emitter loads.

UDC: 615.471:612.014.423

Card 1/2

L 34811-66

ACC NR: AP6021805

source. To increase input impedance and discrimination of synphased interference, it is equipped with an emitter follower having direct galvanic inputs and large, negative, cross feedback of the a-c signal component through condensors. The emitter loads are fixed resistors, connected as shown in Fig. 1. Orig. art. has: 1 figure. [CD]

SUB CODE: 06/ SUBM DATE: 25Jan65/ ATD PRESS: 5031

Card 2/2

(1) SCTB DD

SOURCE CODE: UR/0413/66/000/012/0074/0074

AUTHOR: Shovkoplyas, A. M.; Neumyvakin, I. P.; Syamyshev, R. I.

ORG: none

TITLE: Device for recording human respiration. Class 30, No. 182852

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 74

TOPIC TAGS: respiration sensor, human physiology

ABSTRACT: An Author Certificate has been issued for a device used to record human respiration. The device consists of a housing with respiratory bladder, aneroid

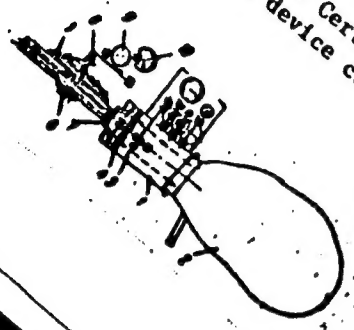

Fig. 1. Device for recording human respiration
1 - Housing; 2 - respiratory bladder; 3 - aneroid component; 4 - fan; 5 - reducer; 6 - inhale valve; 7 - exhale valve; 8 - lever-multiplier system; 9 - ratchet wheel; 10 - scale.

UDC: 615.471:612.2-08

L 34971-66

ACC NR: AP6021806

component, and a fan wi
construction of the devic
number of [illegible] in a
lever-multiplier mechanism. A graduated scale indicates ex
art. has: 1 figure.

SUB CODE: 06/ SUBM DATE: 23Jan6-

Card 2/2 JS

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001858310008-7"